

**REMARKS**

Claims 1, 3-6, 8-17 and 20 are pending in the application and stand rejected.

**Objection under 35 U.S.C §112**

The specification stands objected to as failing to support the subject matter set forth in the claims. In particular, the Examiner finds that the specification does not support the limitation “in response to an increase in the instantaneous power consumed inside the integrated circuit, supplying power from an internal inductance in the integrated circuit before additional power is provided by the voltage regulator” recited in claim 20. Applicant directs the Examiner’s attention to page 4, lines 18-22 of the originally filed specification, wherein it is stated that

In other words, the invention takes advantage of the fact that a certain amount of time is necessary for a current surge to propagate inside an integrated circuit, from the transistors being switched at a given time, to the power plane of the integrated circuit; this delay is caused by local decoupling--smoothing effect--and by internal inductance inside the integrated circuit.

(emphasis added). Applicant respectfully submits that the above portion of the specification provides clearly conveys to one skilled in the art that Applicant had possession at the time of filing of the claimed subject matter, and requests the Examiner to kindly reconsider and withdraw this objection.

**Rejection under 35 U.S.C §112**

Claim 20 stands rejected under 35 U.S.C. 112 as containing subject matter which was not described in the specification in such a way to reasonably convey to one skilled in the art that Applicant had possession at the time of filing of the claimed subject matter. Applicant submits that this rejection has been fully addressed in the immediately preceding paragraph, wherein

Applicant has shown where the specification provides support for the claim limitation objected to by the Examiner, and respectfully requests the Examiner to reconsider and pass claim 20 to issue.

Rejection under 35 U.S.C §102

Claims 1, 3-6 and 8-17 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,047,248 to Georgiou. In particular, the Examiner finds that, with regard to claim 1, Georgiou discloses all of the claimed limitations. Applicants have reviewed the reference with care, paying particular attention to the passages cited, and are compelled to respectfully disagree with the Examiner's characterization of this reference.

Claim 1 recites, *inter alia*, measuring instantaneous power consumption inside of the integrated circuit by sensing power consumption in at least two of said units and computing instantaneous power consumption inside of the integrated circuit according to the sensed power consumption in said units. The Examiner asserts that Georgiou discloses this by teaching using thermal sensors 119 in Fig. 1 and at col. 4 ll. 18-34. Applicants respectfully disagree with the Examiner's understanding of Georgiou. The portion of the specification cited by the Examiner teaches that

According to the present invention, each functional unit may have an on-chip thermal sensor 119 which generates an electrical signal 125 representative of the **temperature** of the associated functional unit. Each functional unit has been characterized over a range of voltages and corresponding clock frequencies wherein each voltage-frequency pair satisfies the worst case propagation delays for critical timing paths. Thus, synchronization and reliability issues are avoided.

The signal 125 from the thermal sensor is provided to a temperature decoder 130 which samples

the signal and compares it to a predetermined temperature threshold to determine if the functional unit is overheating. The temperature decoder 130 generates a current/clock control signal 270 as a function of the comparison, e.g., if the threshold has been exceeded or as a function of the temperature relative to a prior sample and/or rate of temperature change.

(emphasis added). It is very clear from the above portion as well as the *entire* Georgiou specification and claims that it is the temperature that is measured, not the instantaneous power consumption; indeed, the very explicitly stated purpose of Georgiou is to provide *thermal* feedback for reducing power consumption. As the Examiner will appreciate, although there may be a physical relationship between temperature and instantaneous power consumption, they are entirely different physical variables with a definite temporal lag therebetween and with very different instrumentation and sensor requirements for measurement thereof. Applicant therefore respectfully submits that claim 1 is in fact patentable over Georgiou and requests the Examiner to kindly reconsider and pass the claim to issue. Should the Examiner disagree, Applicant respectfully requests him to clearly and specifically point out where Georgiou discloses this feature in accordance with 37 C.F.R. 1.104(c)2.

Claims 3-5 and 10-13 depend from claim 1. In view of the above discussion, it is submitted that claim 1 is allowable, and for this reason claims 3-5 and 10-13 are also allowable and not individually addressed herein.

Claim 6 recites, *inter alia*, an “integrated circuit comprising at least one unit provided with a plurality of sensors for measuring power consumption.” As discussed above, Georgiou does not teach nor allude to an integrated circuit that includes sensors for measuring power consumption. All Georgiou discloses is temperature measuring. Thus, Applicant respectfully submits that claim 6 is also novel and patentable over Georgiou.

Claims 8, 9 and 14-16 depend from claim 6. In view of the above discussion, it is submitted that claim 6 is allowable, and for this reason claims 8, 9 and 14-16 are also allowable.

Claim 17 recites, *inter alia*, "an integrated circuit having at least one sensor for sensing instantaneous power consumption by said integrated circuit." As discussed above with respect to claim 6, Georgiou does not teach nor allude to an integrated circuit that includes sensors for measuring power consumption. Thus, Applicant respectfully submits that claim 17 is also novel and patentable over Georgiou.

Claim 18 depends from claim 6. In view of the above discussion, it is submitted that claim 6 is allowable, and for this reason claim 18 is also allowable.

Claim 20 recites, *inter alia*, "measuring instantaneous power consumption inside the integrated circuit." As discussed above with respect to claim 1, Georgiou does not teach nor allude to performing this function. Thus, Applicant respectfully submits that claim 20 is also novel and patentable over Georgiou.

Applicant therefore submits that the application is now in condition for allowance and respectfully urges the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 08-2025. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 08-2025.

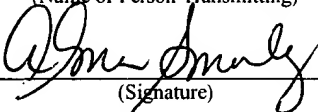
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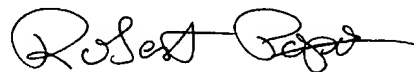


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